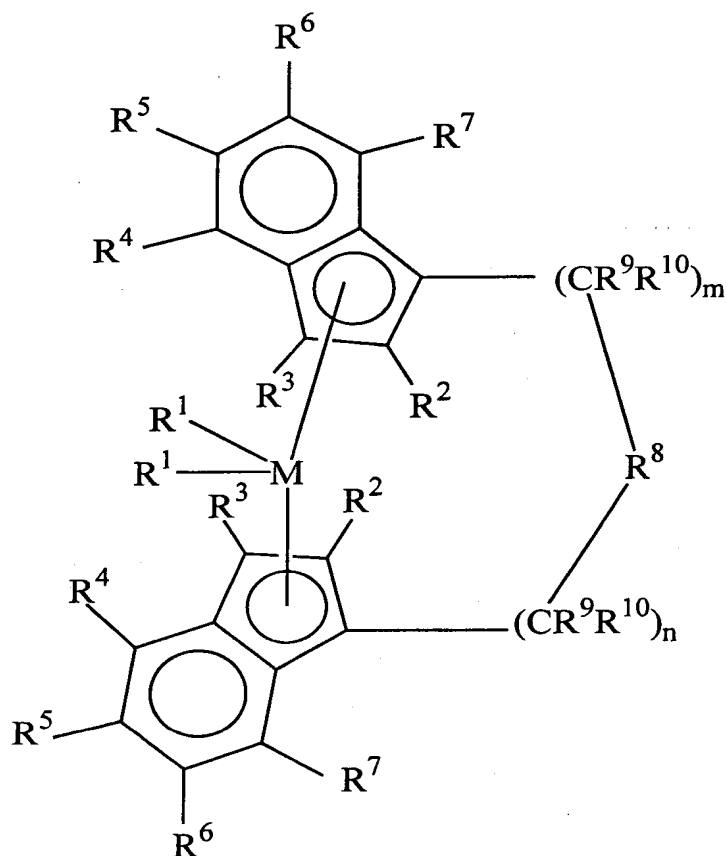


# Amendments To The Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

## Listing of Claims:

- (Currently Amended) A propylene copolymer produced by the process ~~A process for preparing a propylene copolymer, the process comprising:~~  
 polymerizing propylene and ethylene ~~a comonomer selected from C<sub>2</sub> and C<sub>4</sub>-C<sub>10</sub>~~ in the presence of the product of an activator and a metallocene compound represented by the formula:



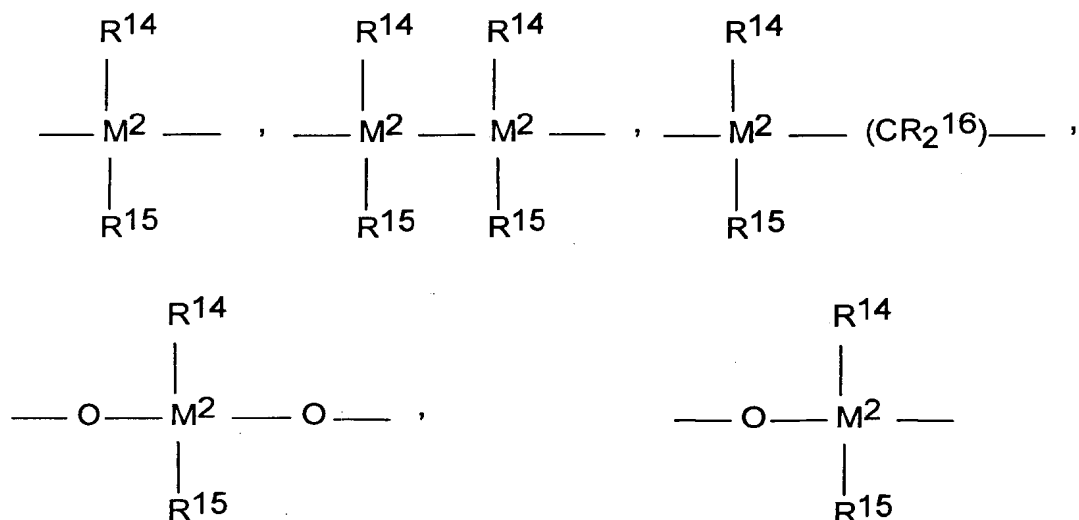
wherein: M is hafnium

R<sup>1</sup> are identical or different, and are one of a hydrogen atom, a C<sub>1</sub>-C<sub>10</sub> alkyl group, a C<sub>1</sub>-C<sub>10</sub> alkoxy group, a C<sub>6</sub>-C<sub>10</sub> aryl group, a C<sub>6</sub>-C<sub>10</sub> aryloxy group, a C<sub>2</sub>-C<sub>10</sub> alkenyl group, a C<sub>7</sub>-C<sub>40</sub> arylalkyl group, a C<sub>7</sub>-C<sub>40</sub> alkylaryl group, a C<sub>8</sub>-C<sub>40</sub> arylalkenyl group, a halogen atom, or a conjugated diene, said conjugated diene substituted with one or more hydrocarbyl, tri(hydrocarbyl)silyl or tri(hydrocarbyl)silylhydrocarbyl groups, and said diene having up to 30 atoms not counting hydrogen;

$R^2$  is a hydrogen atom;

$R^3$  is a hydrogen atom;

$R^8$  is



wherein:  $R^{14}$ ,  $R^{15}$  and  $R^{16}$  are identical or different, and are a hydrogen, a halogen, a  $C_1$ - $C_{20}$  branched or linear alkyl group, a  $C_1$ - $C_{20}$  fluoroalkyl, a silylalkyl group, a  $C_6$ - $C_{30}$  aryl group, a  $C_6$ - $C_{30}$  fluoroaryl group, a  $C_1$ - $C_{20}$  alkoxy group, a  $C_2$ - $C_{20}$  alkenyl group, a  $C_7$ - $C_{40}$  arylalkyl group, a  $C_8$ - $C_{40}$  arylalkenyl group, a  $C_7$ - $C_{40}$  alkylaryl group, or  $R^{14}$  and  $R^{15}$ , together with the atoms binding them, form a cyclic ring;

$M^2$  is carbon;

$R^9$  and  $R^{10}$  are identical or different, and have the meanings stated for  $R^1$ ;

$R^4$ ,  $R^5$ ,  $R^6$  and  $R^7$  are identical or different, and have the meanings stated for  $R^1$

provided that at least one of  $R^4$  and  $R^7$  are not hydrogen; and

m and n are identical or different, and are zero, 1 or 2;

wherein the propylene copolymer comprises:

a) at least 50 wt% units derived from propylene;

b) ~~from 5 wt% to about 28 wt% of the comonomer~~ from 10 wt% to 20 wt% ethylene derived units, based on the total weight of the copolymer; and

c) a ratio of g' as determined by the formula:

$$(g'_{88-98})/(g'_{20-60}) \geq 1.20$$

where the subscripts, 88-98 and 20-60, refer to the wt% of copolymer eluted in GPC-DRI, and in the numerator and the denominator, g' is the weight average g' over the elution range designated 88-98 and 20-60, respectively, and

~~d) wherein the propylene copolymer has~~ a weight average molecular weight of 20,000 to 1,000,000 g/mol.

2-3. (Cancelled)

4. (Currently Amended) The ~~process~~ copolymer of claim 1 wherein R<sup>14</sup>, R<sup>15</sup> and R<sup>16</sup>, when present, are hydrogen or a C<sub>1</sub>-C<sub>4</sub> alkyl group.

5. (Currently Amended) The ~~process~~ copolymer of claim 1 wherein m is 1 and n is 1 ~~are 1~~.

6-7. (Cancelled)

8. (Currently Amended) The ~~process~~ copolymer of claim 1 wherein the polymer contains at least 75 weight percent propylene derived units, based on the total weight of the copolymer.

9. (Currently Amended) The ~~process~~ copolymer of claim 1 wherein the metallocene compound is a single species.

10. (Currently Amended) The ~~process~~ copolymer of claim 1 wherein the process is a single step polymerization process conducted in a single reactor.

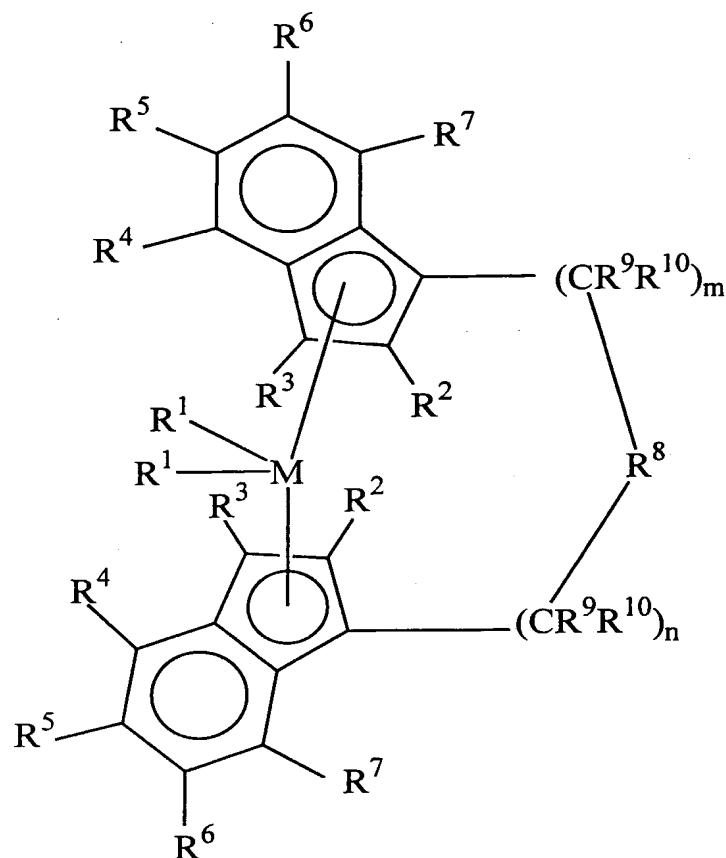
11.-23. (Cancelled)

24. (Currently Amended) The propylene copolymer of claim ~~23~~ 1 wherein the ratio of g' is equal to or greater than 1.30.

25. -29. (Cancelled)

30. (Previously Presented) A process for preparing a propylene copolymer composition comprising:

polymerizing propylene and a comonomer of ethylene in the presence of the product of activator and metallocene compound represented by the formula:



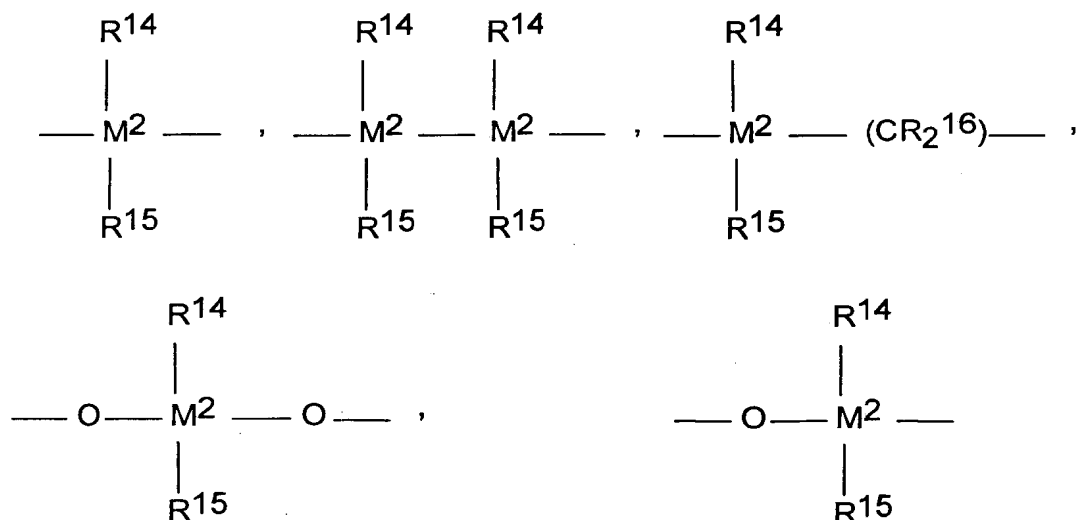
wherein: M is a metal of Group 4, 5, or 6 of the Periodic Table,

$R^1$  are identical or different, and are one of a hydrogen atom, a  $C_1$ - $C_{10}$  alkyl group, a  $C_1$ - $C_{10}$  alkoxy group, a  $C_6$ - $C_{10}$  aryl group, a  $C_6$ - $C_{10}$  aryloxy group, a  $C_2$ - $C_{10}$  alkenyl group, a  $C_7$ - $C_{10}$  arylalkyl group, a  $C_7$ - $C_{40}$  alkylaryl group, a  $C_8$ - $C_{40}$  arylalkenyl group, a halogen atom, or a conjugated diene, said conjugated diene substituted with one or more hydrocarbyl, tri(hydrocarbyl)silyl or tri(hydrocarbyl)silylhydrocarbyl groups, and said diene having up to 30 atoms not counting hydrogen;

$R^2$  are identical or different, and are a hydrogen atom, a halogen atom, a  $C_1$ - $C_{10}$  alkyl group, a halogenated  $C_1$ - $C_{10}$  alkyl group, a  $C_6$ - $C_{10}$  aryl group, a halogenated  $C_6$ - $C_{10}$  aryl group, a  $C_2$ - $C_{10}$  alkenyl group, a  $C_7$ - $C_{10}$  arylalkyl group, a  $C_8$ - $C_{40}$  arylalkenyl group, a  $-NR_2^{17}$  radical, a  $-SR^{17}$  radical, a  $-OR^{17}$  radical, a  $-OSiR_3^{17}$  radical, or a  $-PR_2^{17}$  radical, wherein:  $R^{17}$  is one of a halogen atom, a  $C_1$ - $C_{10}$  alkyl group, or a  $C_6$ - $C_{10}$  aryl group;

$R^3$  are as defined for  $R^1$ ;

$R^8$  is



wherein:  $\text{R}^{14}$ ,  $\text{R}^{15}$  and  $\text{R}^{16}$  are identical and are a  $\text{C}_1$ - $\text{C}_4$  alkyl group;

$\text{M}^2$  is carbon;

$\text{R}^9$  and  $\text{R}^{10}$  are identical or different, and have the meanings stated for  $\text{R}^1$ ;

$\text{R}^4$ ,  $\text{R}^5$ ,  $\text{R}^6$  and  $\text{R}^7$  are identical or different, and have the meanings stated for  $\text{R}^1$

provided that at least one of  $\text{R}^4$  and  $\text{R}^7$  are not hydrogen; and

m and n are identical or different, and are zero, 1 or 2;

wherein the propylene copolymer comprises:

- a) at least 50 wt% units derived from propylene;
- b) a ratio of g's as determined by the formula:

$$\frac{g_{88-98}}{g_{20-60}} \geq 1.10$$

where the subscripts, 88-98 and 20-60, refer to the wt% of copolymer eluted in GPC-DRI, and in the numerator and the denominator, g' is the weight average g' over the elution range designated 88-98 and 20-60, respectively, and wherein the propylene copolymer has a weight average molecular weight of 20,000 to 1,000,000 g/mol.

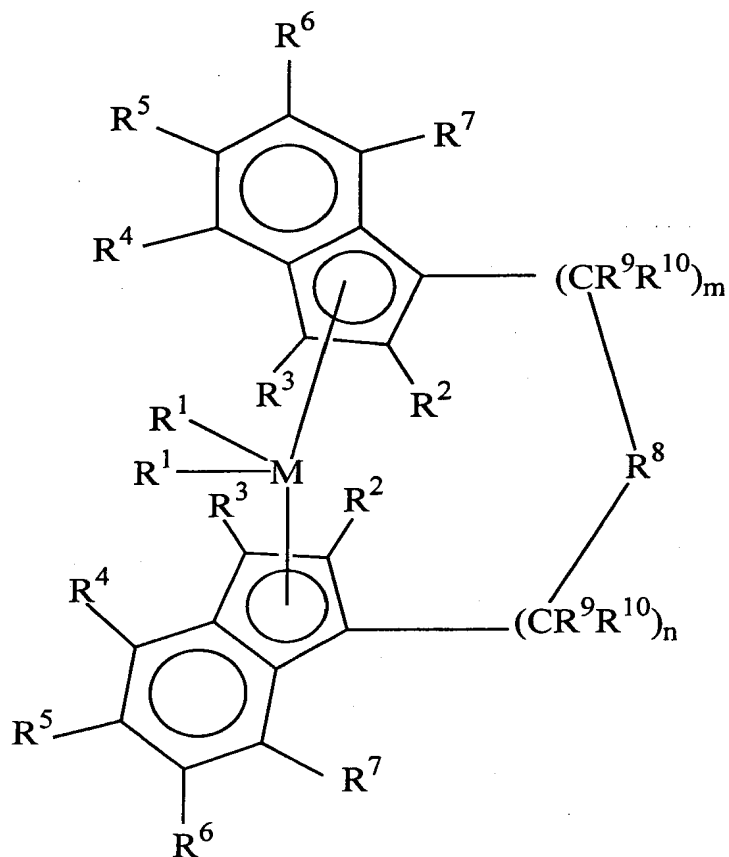
31. (Currently Amended) The ~~process~~ copolymer of Claim 1, wherein the metallocene compound is selected from the group consisting of:

- rac-1,2-ethylenebis(4,7-dimethyl-indenyl)hafnium dichloride;
- rac-1,2-ethylenebis(4,7-diethyl-indenyl)hafnium dichloride;
- rac-1,2-ethylenebis(4,7-diisopropyl-indenyl)hafnium dichloride;
- rac-1,2-ethylenebis(4,7-di-t-butyl-indenyl)hafnium dichloride;

rac-1,2-ethylenebis(4-methyl-7-phenyl-indenyl)hafnium dichloride;  
rac-1,2-ethylenebis(4-phenyl-7-methyl-indenyl)hafnium dichloride;  
and  
dialkyl analogs thereof.

32. (Currently Amended) A process for preparing a propylene copolymer, the process comprising:

polymerizing propylene and a comonomer selected from C<sub>2</sub> and C<sub>4</sub>-C<sub>10</sub> in the presence of the product of an activator and a metallocene compound represented by the formula:



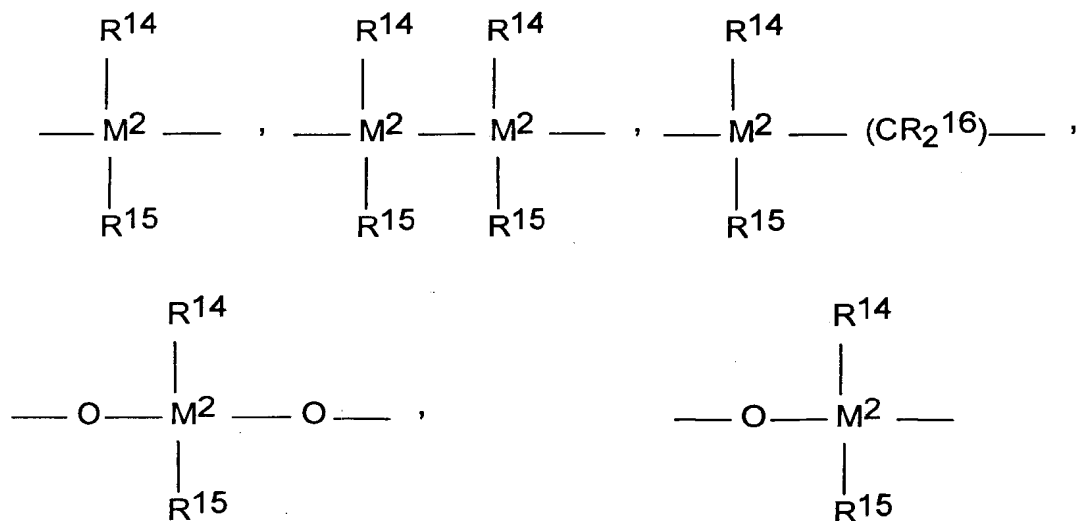
wherein: M is hafnium

R<sup>1</sup> are identical or different, and are one of a hydrogen atom, a C<sub>1</sub>-C<sub>10</sub> alkyl group, a C<sub>1</sub>-C<sub>10</sub> alkoxy group, a C<sub>6</sub>-C<sub>10</sub> aryl group, a C<sub>6</sub>-C<sub>10</sub> aryloxy group, a C<sub>2</sub>-C<sub>10</sub> alkenyl group, a C<sub>7</sub>-C<sub>40</sub> arylalkyl group, a C<sub>7</sub>-C<sub>40</sub> alkylaryl group, a C<sub>8</sub>-C<sub>40</sub> arylalkenyl group, a halogen atom, or a conjugated diene, said conjugated diene substituted with one or more hydrocarbyl, tri(hydrocarbyl)silyl or tri(hydrocarbyl)silylhydrocarbyl groups, and said diene having up to 30 atoms not counting hydrogen;

R<sup>2</sup> are hydrogen;

R<sup>3</sup> are as defined for R<sup>1</sup>;

R<sup>8</sup> is



wherein: R<sup>14</sup>, R<sup>15</sup> and R<sup>16</sup> are identical or different, and are a hydrogen, a halogen, a C<sub>1</sub>-C<sub>20</sub> branched or linear alkyl group, a C<sub>1</sub>-C<sub>20</sub> fluoroalkyl, a silylalkyl group, a C<sub>6</sub>-C<sub>30</sub> aryl group, a C<sub>6</sub>-C<sub>30</sub> fluoroaryl group, a C<sub>1</sub>-C<sub>20</sub> alkoxy group, a C<sub>2</sub>-C<sub>20</sub> alkenyl group, a C<sub>7</sub>-C<sub>40</sub> arylalkyl group, a C<sub>8</sub>-C<sub>40</sub> arylalkenyl group, a C<sub>7</sub>-C<sub>40</sub> alkylaryl group, or R<sup>14</sup> and R<sup>15</sup>, together with the atoms binding them, form a cyclic ring;

M<sup>2</sup> is carbon;

R<sup>9</sup> and R<sup>10</sup> are identical or different, and have the meanings stated for R<sup>1</sup>;

R<sup>4</sup>, R<sup>5</sup>, R<sup>6</sup> and R<sup>7</sup> are identical or different, and have the meanings stated for R<sup>1</sup>

provided that at least one of R<sup>4</sup> and R<sup>7</sup> are not hydrogen; and

m is 1 or 2 and n is 1 or 2; and n are identical or different, and are zero, 1 or 2;

wherein the propylene copolymer comprises:

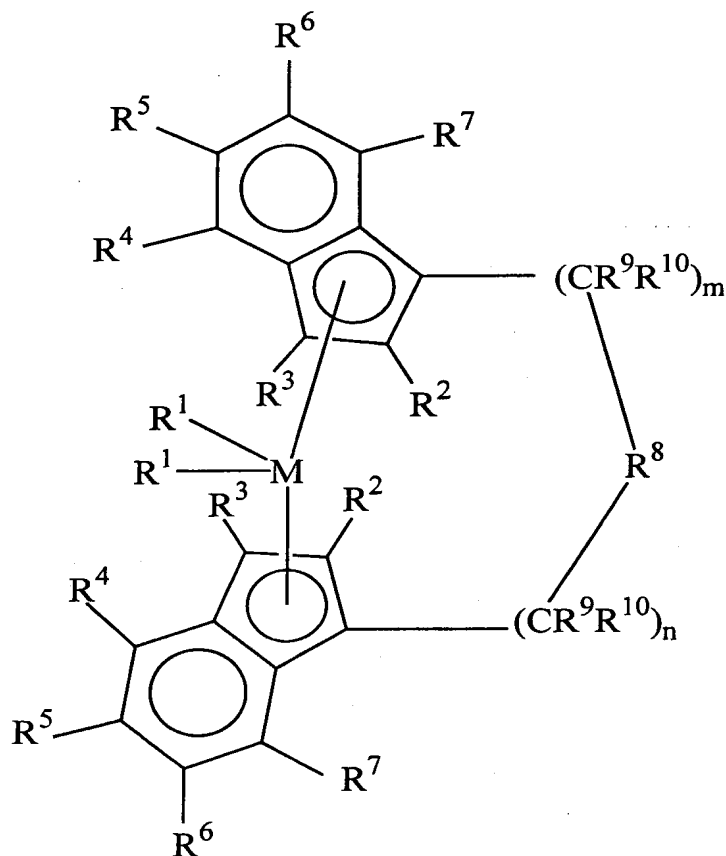
- a) at least 50 wt% units derived from propylene;
- b) from 5 wt% to about 28 wt% of the comonomer; and
- c) a ratio of g' as determined by the formula:

$$\frac{g'_{88-98}}{g'_{20-60}} \geq 1.10$$

where the subscripts, 88-98 and 20-60, refer to the wt% of copolymer eluted in GPC-DRI, and in the numerator and the denominator, g' is the weight average g' over the elution range designated 88-98 and 20-60, respectively, and wherein the propylene copolymer has a weight average molecular weight of 20,000 to 1,000,000 g/mol.

33. (Previously Presented) The process of claim 32 wherein  $R^3$  are hydrogen.
34. (Previously Presented) The process of claim 32 wherein  $R^{14}$ ,  $R^{15}$  and  $R^{16}$ , when present, are hydrogen or a  $C_1$ - $C_4$  alkyl group.
35. (Currently Amended) The process of claim 32 wherein m is 1 and n is 1. ~~and n are 1.~~
36. (Previously Presented) The process of claim 32 wherein  $R^5$  and  $R^6$  are hydrogen,  $R^9$  and  $R^{10}$ , when present, are hydrogen, and  $R^4$  and  $R^7$  are identical, and are one of a fluorine, a chlorine, a bromine, a  $C_1$ - $C_4$  alkyl group, or a  $C_6$ - $C_{10}$  aryl group.
37. (Previously Presented) The process of claim 32 wherein the polymer contains at least 75 weight percent propylene derived units, based on the total weight of the copolymer.
38. (Previously Presented) The process of claim 32 wherein the metallocene compound is a single species.
39. (Previously Presented) The process of claim 32 wherein the process is a single step polymerization process conducted in a single reactor.
40. (Currently Amended) A process for preparing a propylene copolymer, the process comprising:  
polymerizing propylene and a comonomer selected from  $C_2$  and  $C_4$ - $C_{10}$  in the presence of the product of an activator and a metallocene compound represented by the formula:





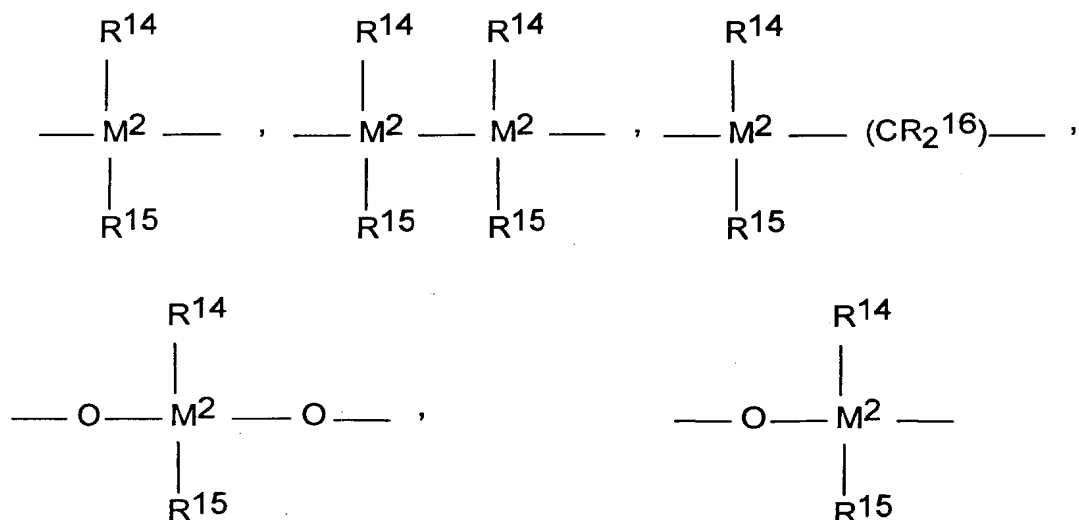
wherein: M is hafnium

R<sup>1</sup> are identical or different, and are one of a hydrogen atom, a C<sub>1</sub>-C<sub>10</sub> alkyl group, a C<sub>1</sub>-C<sub>10</sub> alkoxy group, a C<sub>6</sub>-C<sub>10</sub> aryl group, a C<sub>6</sub>-C<sub>10</sub> aryloxy group, a C<sub>2</sub>-C<sub>10</sub> alkenyl group, a C<sub>7</sub>-C<sub>40</sub> arylalkyl group, a C<sub>7</sub>-C<sub>40</sub> alkylaryl group, a C<sub>8</sub>-C<sub>40</sub> arylalkenyl group, a halogen atom, or a conjugated diene, said conjugated diene substituted with one or more hydrocarbyl, tri(hydrocarbyl)silyl or tri(hydrocarbyl)silylhydrocarbyl groups, and said diene having up to 30 atoms not counting hydrogen;

R<sup>2</sup> are identical or different, and are a hydrogen atom, a halogen atom, a C<sub>1</sub>-C<sub>10</sub> alkyl group, a halogenated C<sub>1</sub>-C<sub>10</sub> alkyl group, a C<sub>6</sub>-C<sub>10</sub> aryl group, a halogenated C<sub>6</sub>-C<sub>10</sub> aryl group, a C<sub>2</sub>-C<sub>10</sub> alkenyl group, a C<sub>7</sub>-C<sub>40</sub> arylalkyl group, a C<sub>8</sub>-C<sub>40</sub> arylalkenyl group, a -NR<sub>2</sub><sup>17</sup> radical, a -SR<sup>17</sup> radical, a -OR<sup>17</sup> radical, a -OSiR<sub>3</sub><sup>17</sup> radical, or a -PR<sub>2</sub><sup>17</sup> radical, wherein: R<sup>17</sup> is one of a halogen atom, a C<sub>1</sub>-C<sub>10</sub> alkyl group, or a C<sub>6</sub>-C<sub>10</sub> aryl group;

R<sup>3</sup> are as defined for R<sup>1</sup>;

R<sup>8</sup> is



wherein:  $\text{R}^{14}$ ,  $\text{R}^{15}$  and  $\text{R}^{16}$  are identical or different, and are a hydrogen, a halogen, a  $\text{C}_1\text{-C}_{20}$  branched or linear alkyl group, a  $\text{C}_1\text{-C}_{20}$  fluoroalkyl, a silylalkyl group, a  $\text{C}_6\text{-C}_{30}$  aryl group, a  $\text{C}_6\text{-C}_{30}$  fluoroaryl group, a  $\text{C}_1\text{-C}_{20}$  alkoxy group, a  $\text{C}_2\text{-C}_{20}$  alkenyl group, a  $\text{C}_7\text{-C}_{40}$  arylalkyl group, a  $\text{C}_8\text{-C}_{40}$  arylalkenyl group, a  $\text{C}_7\text{-C}_{40}$  alkylaryl group, or  $\text{R}^{14}$  and  $\text{R}^{15}$ , together with the atoms binding them, form a cyclic ring;

$\text{M}^2$  is carbon;

m is 1 or 2;

n is 1 or 2; m and n are identical or different, and are zero, 1 or 2; and

$\text{R}^5$  and  $\text{R}^6$  are hydrogen,

$\text{R}^9$  and  $\text{R}^{10}$ , when present, are hydrogen, and

$\text{R}^4$  and  $\text{R}^7$  are identical, and are one of a fluorine, a chlorine, a bromine, a  $\text{C}_1\text{-C}_4$  alkyl group, or a  $\text{C}_6\text{-C}_{10}$  aryl group;

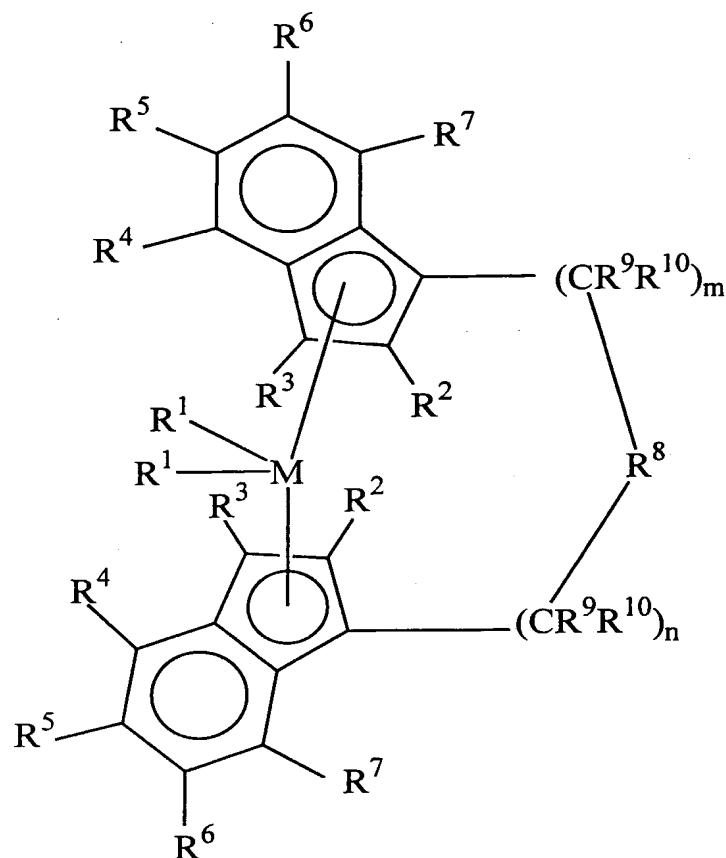
wherein the propylene copolymer comprises:

- a) at least 50 wt% units derived from propylene;
- b) from 5 wt% to about 28 wt% of the comonomer; and
- c) a ratio of  $g'$  as determined by the formula:

$$\frac{g'_{88-98}}{g'_{20-60}} \geq 1.10$$

where the subscripts, 88-98 and 20-60, refer to the wt% of copolymer eluted in GPC-DRI, and in the numerator and the denominator,  $g'$  is the weight average  $g'$  over the elution range designated 88-98 and 20-60, respectively, and wherein the propylene copolymer has a weight average molecular weight of 20,000 to 1,000,000 g/mol.

41. (Previously Presented) The process of claim 40 wherein  $R^2$  are hydrogen.
42. (Previously Presented) The process of claim 40 wherein  $R^2$  and  $R^3$  are hydrogen.
43. (Previously Presented) The process of claim 40 wherein  $R^{14}$ ,  $R^{15}$  and  $R^{16}$ , when present, are hydrogen or a  $C_1$ - $C_4$  alkyl group.
44. (Currently Amended) The process of claim 40 wherein m is 1 and n is 1. ~~and n are 1.~~
45. (Previously Presented) The process of claim 40 wherein the polymer contains at least 75 weight percent propylene derived units, based on the total weight of the copolymer.
46. (Previously Presented) The process of claim 40 wherein the metallocene compound is a single species.
47. (Previously Presented) The process of claim 40 wherein the process is a single step polymerization process conducted in a single reactor.
48. (Currently Amended) A process for preparing a propylene copolymer composition comprising:  
polymerizing propylene and a comonomer of ethylene in the presence of the product of an activator and a metallocene compound represented by the formula:



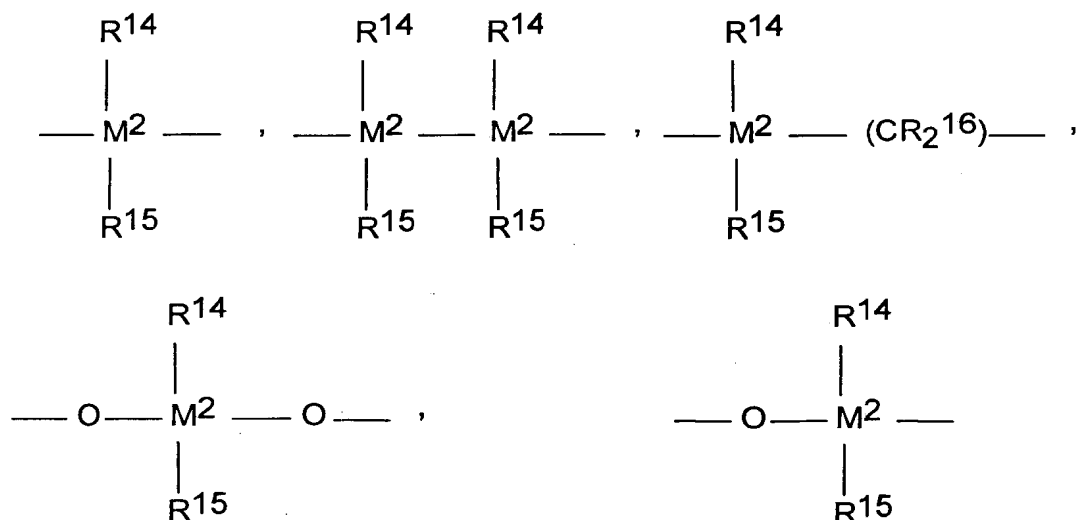
wherein: M is hafnium;

$R^1$  are identical or different, and are one of a hydrogen atom, a  $C_1$ - $C_{10}$  alkyl group, a  $C_1$ - $C_{10}$  alkoxy group, a  $C_6$ - $C_{10}$  aryl group, a  $C_6$ - $C_{10}$  aryloxy group, a  $C_2$ - $C_{10}$  alkenyl group, a  $C_7$ - $C_{10}$  arylalkyl group, a  $C_7$ - $C_{40}$  alkylaryl group, a  $C_8$ - $C_{40}$  arylalkenyl group, a halogen atom, or a conjugated diene, said conjugated diene substituted with one or more hydrocarbyl, tri(hydrocarbyl)silyl or tri(hydrocarbyl)silylhydrocarbyl groups, and said diene having up to 30 atoms not counting hydrogen;

$R^2$  are identical or different, and are a hydrogen atom, a halogen atom, a  $C_1$ - $C_{10}$  alkyl group, a halogenated  $C_1$ - $C_{10}$  alkyl group, a  $C_6$ - $C_{10}$  aryl group, a halogenated  $C_6$ - $C_{10}$  aryl group, a  $C_2$ - $C_{10}$  alkenyl group, a  $C_7$ - $C_{10}$  arylalkyl group, a  $C_8$ - $C_{40}$  arylalkenyl group, a  $-NR_2^{17}$  radical, a  $-SR^{17}$  radical, a  $-OR^{17}$  radical, a  $-OSiR_3^{17}$  radical, or a  $-PR_2^{17}$  radical, wherein:  $R^{17}$  is one of a halogen atom, a  $C_1$ - $C_{10}$  alkyl group, or a  $C_6$ - $C_{10}$  aryl group;

$R^3$  are as defined for  $R^1$ ;

$R^8$  is



wherein:  $\text{R}^{14}$ ,  $\text{R}^{15}$  and  $\text{R}^{16}$  are identical or different, and are a hydrogen, a halogen, a  $\text{C}_1\text{-C}_{20}$  branched or linear alkyl group, a  $\text{C}_1\text{-C}_{20}$  fluoroalkyl, a silylalkyl group, a  $\text{C}_6\text{-C}_{30}$  aryl group, a  $\text{C}_6\text{-C}_{30}$  fluoroaryl group, a  $\text{C}_1\text{-C}_{20}$  alkoxy group, a  $\text{C}_2\text{-C}_{20}$  alkenyl group, a  $\text{C}_7\text{-C}_{40}$  arylalkyl group, a  $\text{C}_8\text{-C}_{40}$  arylalkenyl group, a  $\text{C}_7\text{-C}_{40}$  alkylaryl group, or  $\text{R}^{14}$  and  $\text{R}^{15}$ , together with the atoms binding them, form a cyclic ring;

$\text{M}^2$  is carbon;

$\text{R}^5$  and  $\text{R}^6$  are hydrogen;

$\text{R}^9$  and  $\text{R}^{10}$ , when present are hydrogen;

$\text{R}^4$  and  $\text{R}^7$  are identical and are a fluorine, a chlorine a bromine, a  $\text{C}_1\text{-C}_4$  alkyl group, or a  $\text{C}_6\text{-C}_{10}$  aryl group; and

m is 1 or 2; and

n is 1 or 2;

~~m and n are identical or different, and are zero, 1 or 2;~~

wherein the propylene copolymer comprises:

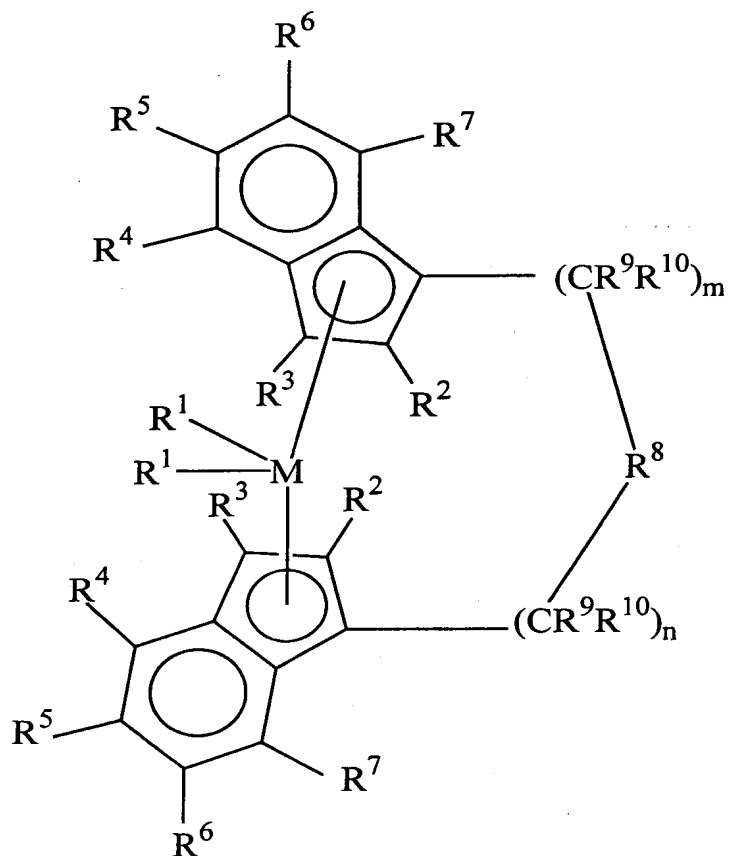
- a) at least 50 wt% units derived from propylene;
- b) from 5 wt% to about 28 wt% ethylene; and
- c) a ratio of  $g'$  as determined by the formula:

$$\frac{g'_{88-98}}{g'_{20-60}} \geq 1.10$$

where the subscripts, 88-98 and 20-60, refer to the wt% of copolymer eluted in GPC-DRI, and in the numerator and the denominator,  $g'$  is the weight average  $g'$  over the elution

range designated 88-98 and 20-60, respectively, and wherein the propylene copolymer has a weight average molecular weight of 20,000 to 1,000,000 g/mol.

49. (Previously Presented) The process of claim 48 wherein  $R^2$  are identical or different  $C_1$ - $C_4$  alkyl groups.
50. (Previously Presented) The process of claim 48 wherein  $R^2$  are identical  $C_1$ - $C_4$  alkyl groups, and wherein  $R^3$  are hydrogen.
51. (Previously Presented) The process of claim 48 wherein  $R^{14}$ ,  $R^{15}$  and  $R^{16}$ , when present, are identical and are a  $C_1$ - $C_4$  alkyl group.
52. (Currently Amended) The process of claim 48 wherein m is 1 and n is 1. ~~and n are 1.~~
53. (Previously Presented) The process of claim 48 wherein the composition contains at least 75 weight percent propylene derived units based on the total weight of the composition.
54. (Previously Presented) The process of claim 48 wherein the metallocene compound is a single species.
55. (Previously Presented) The process of claim 48 wherein the process is a single step polymerization process conducted in a single reactor.
56. (New) A process for preparing a propylene copolymer, the process comprising:  
polymerizing propylene and a comonomer selected from  $C_2$  and  $C_4$ - $C_{10}$  in the presence of the product of an activator and a metallocene compound represented by the formula:



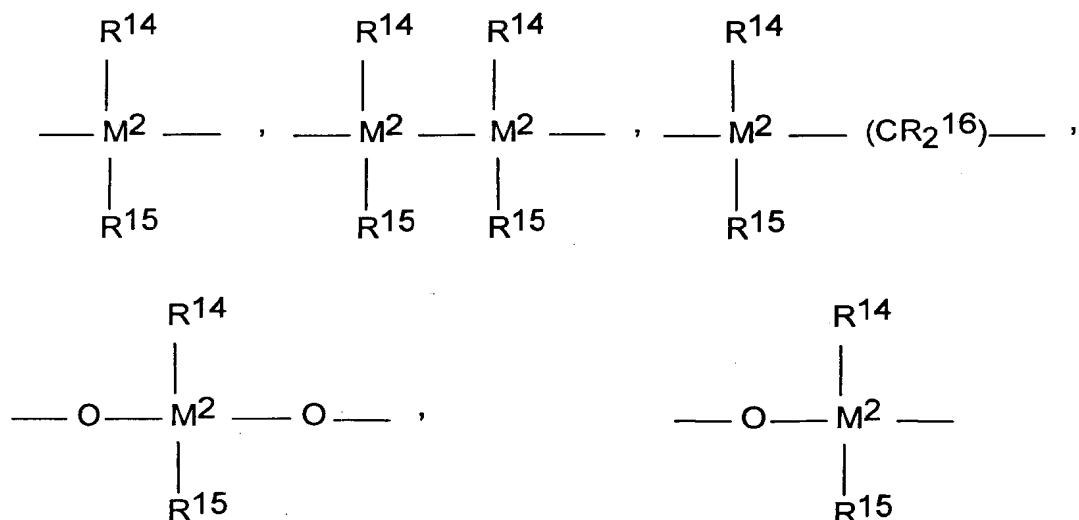
wherein: M is hafnium

R<sup>1</sup> are identical or different, and are one of a hydrogen atom, a C<sub>1</sub>-C<sub>10</sub> alkyl group, a C<sub>1</sub>-C<sub>10</sub> alkoxy group, a C<sub>6</sub>-C<sub>10</sub> aryl group, a C<sub>6</sub>-C<sub>10</sub> aryloxy group, a C<sub>2</sub>-C<sub>10</sub> alkenyl group, a C<sub>7</sub>-C<sub>40</sub> arylalkyl group, a C<sub>7</sub>-C<sub>40</sub> alkylaryl group, a C<sub>8</sub>-C<sub>40</sub> arylalkenyl group, a halogen atom, or a conjugated diene, said conjugated diene substituted with one or more hydrocarbyl, tri(hydrocarbyl)silyl or tri(hydrocarbyl)silylhydrocarbyl groups, and said diene having up to 30 atoms not counting hydrogen;

R<sup>2</sup> is a hydrogen atom;

R<sup>3</sup> is a hydrogen atom;

R<sup>8</sup> is



wherein:  $\text{R}^{14}$ ,  $\text{R}^{15}$  and  $\text{R}^{16}$  are identical or different, and are a hydrogen, a halogen, a  $\text{C}_1\text{-C}_{20}$  branched or linear alkyl group, a  $\text{C}_1\text{-C}_{20}$  fluoroalkyl, a silylalkyl group, a  $\text{C}_6\text{-C}_{30}$  aryl group, a  $\text{C}_6\text{-C}_{30}$  fluoroaryl group, a  $\text{C}_1\text{-C}_{20}$  alkoxy group, a  $\text{C}_2\text{-C}_{20}$  alkenyl group, a  $\text{C}_7\text{-C}_{40}$  arylalkyl group, a  $\text{C}_8\text{-C}_{40}$  arylalkenyl group, a  $\text{C}_7\text{-C}_{40}$  alkylaryl group, or  $\text{R}^{14}$  and  $\text{R}^{15}$ , together with the atoms binding them, form a cyclic ring;

$\text{M}^2$  is carbon;

$\text{R}^9$  and  $\text{R}^{10}$  are identical or different, and have the meanings stated for  $\text{R}^1$ ;

$\text{R}^4$ ,  $\text{R}^5$ ,  $\text{R}^6$  and  $\text{R}^7$  are identical or different, and have the meanings stated for  $\text{R}^1$

provided that at least one of  $\text{R}^4$  and  $\text{R}^7$  are not hydrogen;

m is 1 or 2;

n is 1 or 2; and

wherein the propylene copolymer comprises:

- a) at least 50 wt% units derived from propylene;
- b) from 5 wt% to about 28 wt% of the comonomer; and
- c) a ratio of  $g'$  as determined by the formula:

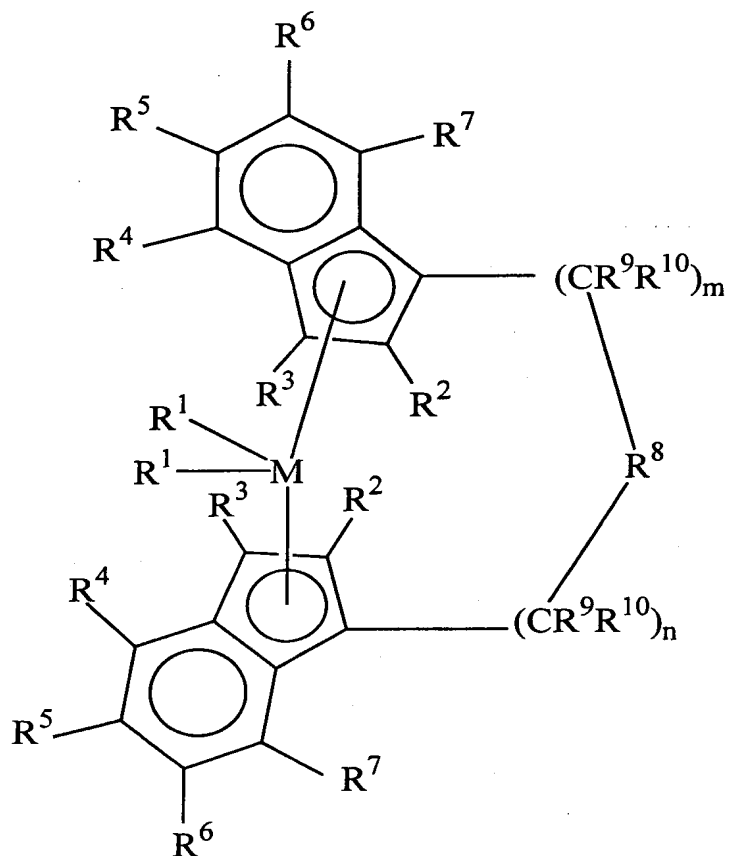
$$(\text{g}'_{88-98})/(\text{g}'_{20-60}) \geq 1.10$$

where the subscripts, 88-98 and 20-60, refer to the wt% of copolymer eluted in GPC-DRI, and in the numerator and the denominator,  $g'$  is the weight average  $g'$  over the elution range designated 88-98 and 20-60, respectively, and

- d) a weight average molecular weight of 20,000 to 1,000,000 g/mol.



57. (New) The process of claim 56 wherein  $R^{14}$ ,  $R^{15}$  and  $R^{16}$ , when present, are hydrogen or a  $C_1$ - $C_4$  alkyl group.
58. (New) The process of claim 56 wherein m is 1 and n is 1.
59. (New) The process of claim 56 wherein the polymer contains at least 75 weight percent propylene derived units, based on the total weight of the copolymer.
60. (New) The process of claim 56 wherein the metallocene compound is a single species.
61. (New) The process of claim 56 wherein the process is a single step polymerization process conducted in a single reactor.
62. (New) The process of claim 56 wherein the ratio of g' is equal to or greater than 1.20.
63. (New) The process of claim 56 wherein the ratio of g' is equal to or greater than 1.30.
64. (New) A process for preparing a propylene copolymer, the process comprising:  
polymerizing propylene and ethylene in the presence of the product of an activator and a metallocene compound represented by the formula:



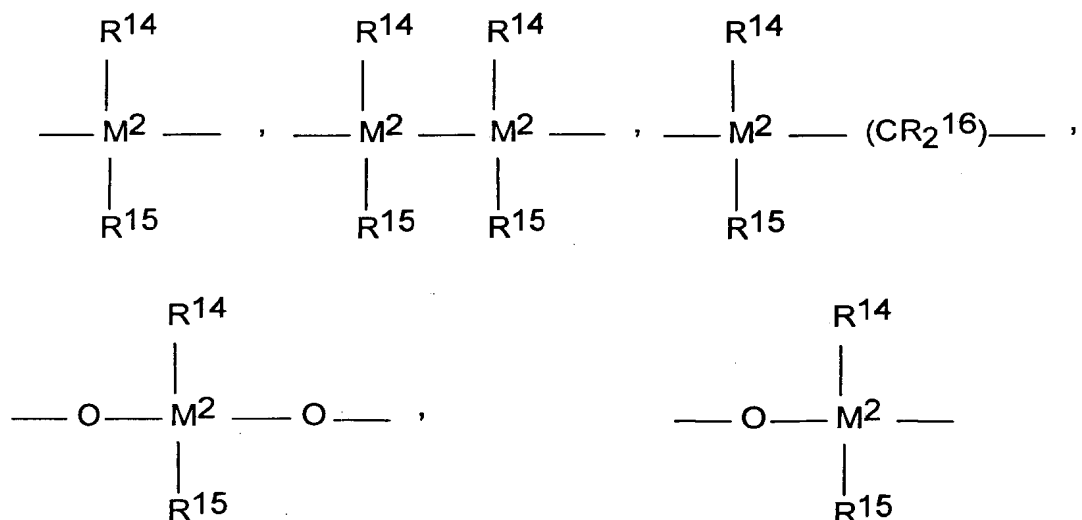
wherein: M is hafnium

R<sup>1</sup> are identical or different, and are one of a hydrogen atom, a C<sub>1</sub>-C<sub>10</sub> alkyl group, a C<sub>1</sub>-C<sub>10</sub> alkoxy group, a C<sub>6</sub>-C<sub>10</sub> aryl group, a C<sub>6</sub>-C<sub>10</sub> aryloxy group, a C<sub>2</sub>-C<sub>10</sub> alkenyl group, a C<sub>7</sub>-C<sub>40</sub> arylalkyl group, a C<sub>7</sub>-C<sub>40</sub> alkylaryl group, a C<sub>8</sub>-C<sub>40</sub> arylalkenyl group, a halogen atom, or a conjugated diene, said conjugated diene substituted with one or more hydrocarbyl, tri(hydrocarbyl)silyl or tri(hydrocarbyl)silylhydrocarbyl groups, and said diene having up to 30 atoms not counting hydrogen;

R<sup>2</sup> is a hydrogen atom;

R<sup>3</sup> is a hydrogen atom;

R<sup>8</sup> is



wherein:  $\text{R}^{14}$ ,  $\text{R}^{15}$  and  $\text{R}^{16}$  are identical or different, and are a hydrogen, a halogen, a  $\text{C}_1\text{-C}_{20}$  branched or linear alkyl group, a  $\text{C}_1\text{-C}_{20}$  fluoroalkyl, a silylalkyl group, a  $\text{C}_6\text{-C}_{30}$  aryl group, a  $\text{C}_6\text{-C}_{30}$  fluoroaryl group, a  $\text{C}_1\text{-C}_{20}$  alkoxy group, a  $\text{C}_2\text{-C}_{20}$  alkenyl group, a  $\text{C}_7\text{-C}_{40}$  arylalkyl group, a  $\text{C}_8\text{-C}_{40}$  arylalkenyl group, a  $\text{C}_7\text{-C}_{40}$  alkylaryl group, or  $\text{R}^{14}$  and  $\text{R}^{15}$ , together with the atoms binding them, form a cyclic ring;

$\text{M}^2$  is carbon;

$\text{R}^9$  and  $\text{R}^{10}$  are identical or different, and have the meanings stated for  $\text{R}^1$ ;

$\text{R}^4$ ,  $\text{R}^5$ ,  $\text{R}^6$  and  $\text{R}^7$  are identical or different, and have the meanings stated for  $\text{R}^1$

provided that at least one of  $\text{R}^4$  and  $\text{R}^7$  are not hydrogen;

$m$  is 0, 1 or 2;

$n$  is 0, 1 or 2; and

wherein the propylene copolymer comprises:

- from 95 to 72 wt% units derived from propylene;
- from 5 wt% to about 28 wt% units derived from ethylene; and
- a ratio of  $g'$  as determined by the formula:

$$(\text{g}'_{88-98})/(\text{g}'_{20-60}) \geq 1.10$$

where the subscripts, 88-98 and 20-60, refer to the wt% of copolymer eluted in GPC-DRI, and in the numerator and the denominator,  $g'$  is the weight average  $g'$  over the elution range designated 88-98 and 20-60, respectively, and

- a weight average molecular weight of 20,000 to 1,000,000 g/mol.

65. (New) The process of claim 64 wherein  $R^{14}$ ,  $R^{15}$  and  $R^{16}$ , when present, are hydrogen or a  $C_1$ - $C_4$  alkyl group.
66. (New) The process of claim 64 wherein m is 1 and n is 1.
67. (New) The process of claim 64 wherein the metallocene compound is a single species.
68. (New) The process of claim 64 wherein the process is a single step polymerization process conducted in a single reactor.
69. (New) The process of claim 64 wherein the ratio of g' is equal to or greater than 1.20.
70. (New) The process of claim 64 wherein the ratio of g' is equal to or greater than 1.30.
71. (New) The process claim 64 wherein both of  $R^4$  and  $R^7$  are not hydrogen.